802.11G Wireless PCI Adapter

USER MANUAL 2.1.0

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1 Introduction

Thank you for purchasing Wireless LAN PCI Card. Wireless card is a perfect combination product of performance and cost-effectiveness. It is sincerely hoped that you can enjoy the wireless world through this solidly profiled wireless card.

It provides a full solution of the IEEE 802.11b/g protocols, this solution passed the WiFi tests that are compatible with all the wireless products with WiFi logo. If you have a wireless card on hand, it means you can connect to the wireless world without any difficulty.

It provides all the data rates in the IEEE 802.1b/g standards, which confines the highest data rate as 54Mbps. In addition, it rewards customers with proprietary “Turbo mode” for a better throughput as well as supports both the short and long preambles to ensure the compatibilities with legacy wireless products and new ones, saving the panic works for finding compatible products.

Since the security has became one of the most important issue in the wireless society, it provides you with the full security coverage from the naïve 64/128bits WEP encryptions, second generation WPA-PSK and WPA-AES encryption, to the most advanced WPA2-PSK and WPA2-AES encryption. WPA2 is the latest security standard currently approved by WiFi standard.

AP mode, Saving mode, Ad-hoc wireless LAN, Wake on LAN (WOL) and other exciting features are also included in this Wireless LAN PCI Card. It will guide you through these exciting features in the following chapters, and it is believed that you will be greatly satisfied with its performance and ease of use.

2 Specifications

FEATURES

- 802.11b/g compliant with up to 54Mbps high-speed data rate
- Universal Plug and Play, no complicated installation necessary
- Wireless security – 64/128bit WEP, WPA/WPA2, 802.1x and 802.11i
- Detachable antenna allows user to replace higher gain antenna
- Support SoftAP function - allows user to create AP function at your computer
- Interface PCI 2.2

SPECIFICATIONS

Chipset	Realtek RTL8185L
Standard	IEEE 802.11g/b
Antenna	External 2 dBi detachable dipole antenna
Frequency Band	2.400GHz ~ 2.484GHz
Security	64/128bit WEP
	WPA(TKIP with IEEE 802.1x)
	WPA2(AES with IEEE 802.1x)
Data Rate	802.11g: 54, 48, 36, 24, 18, 12, 9 & 6Mbps
	802.11b: 11, 5.5, 2 and 1 Mbps with auto-rate fall back
Sensitivity	-68dBm @ 802.11g
	-80dBm @ 802.11b
RF Output Power(Typical)	802.11b: up to 17 ± 1 dBm
	802.11g: up to 15 ± 1 dBm
Number of operation channel	2.412~2.462GHz (Canada, FCC) / 11 Channels
	2.412~2.484GHz (Japan, TELEC) / 14 Channels
	2.412~2.472GHz (Euro, ETSI) / 13 Channels
Access Protocol	CSMA/CA
QoS enhancement	WMM, WMM-SA
Host Interface	PCI interface 2.2
Operatiom Voltage	3.3V
Dimension(mm)	120(L) x 80(W)
Operation Temperature	0°C ~ 55°C ambient temperature
Storage Temperature	-20% ~ 70% ambient temperature
Driver support	Windows® 98SE, ME, 2000, XP 32/64, Vista 32/64
Approval	FCC Part 15
	CE

PACKAGE CONTENTS

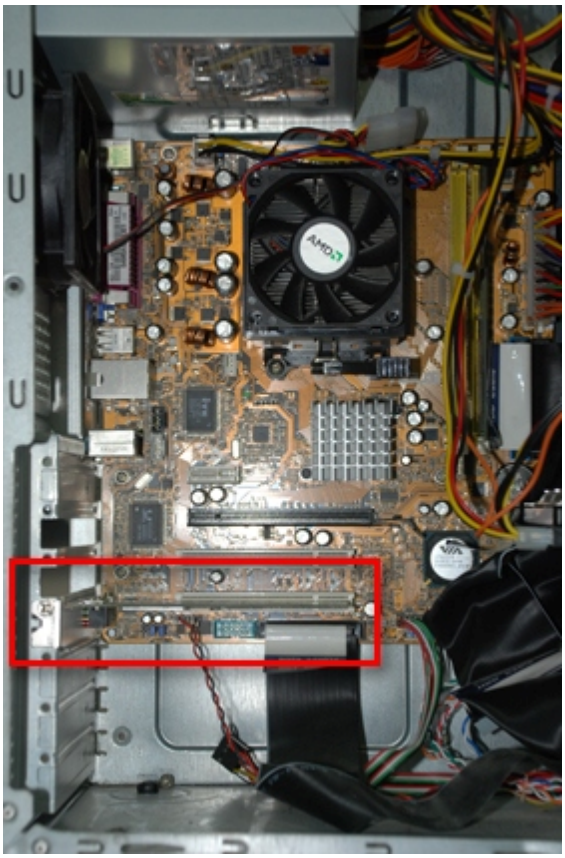
1. Wireless LAN PCI Card
2. Installation Software CD
3. 2dbi antenna

3 Installation/ Uninstallation

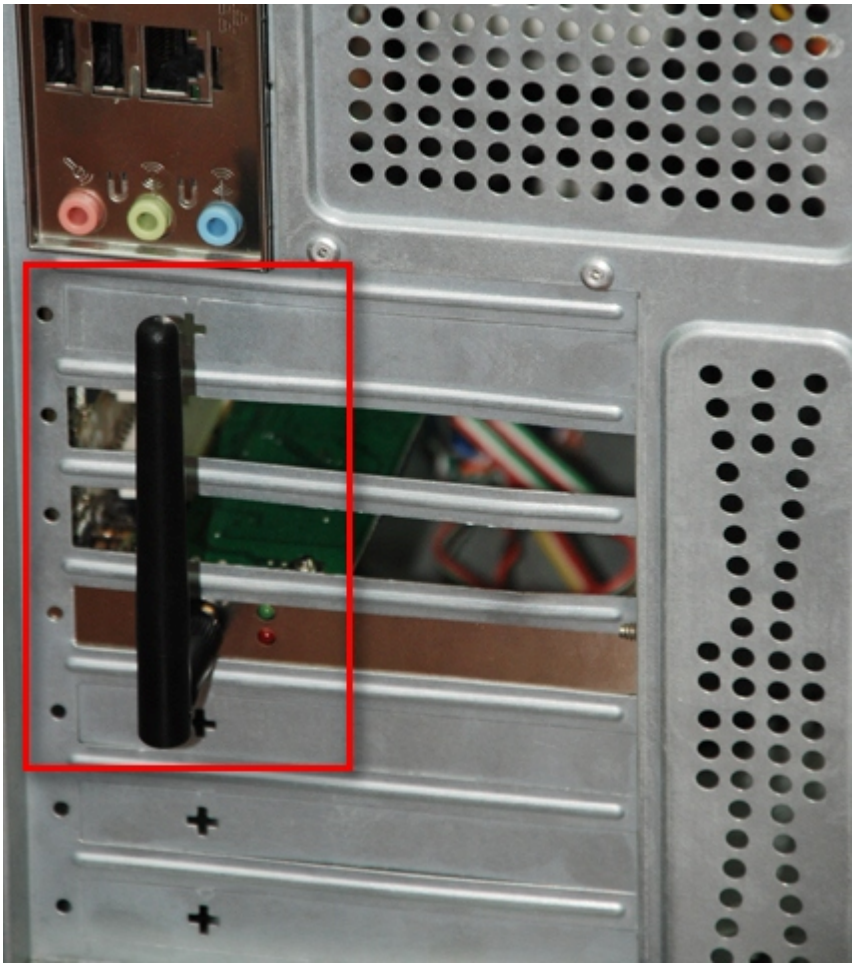
3.1 Installation

Hardware installation

Step1:
Install Wireless LAN PCI Card (card only) into your computer PCI slot as below.



Step2:
Install antenna to your Wireless LAN PCI Card as picture below.

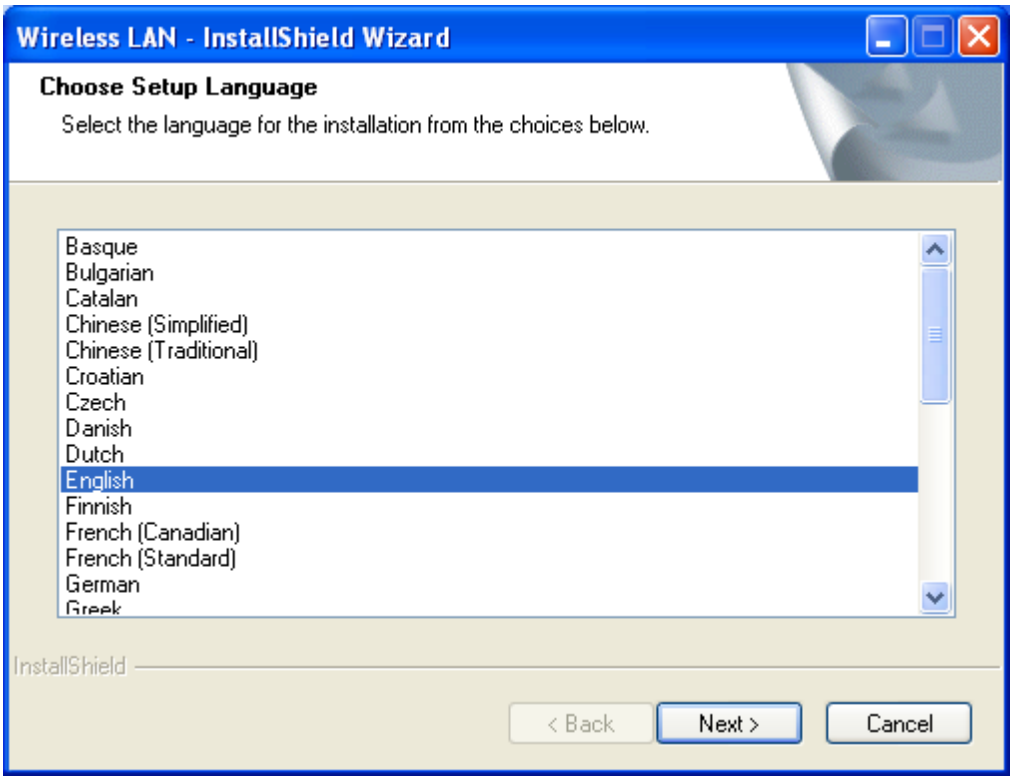


Note: Please make sure that antenna is tightly screwed to get optimal receiving coverage area.

Driver installation

Before you proceed with the installation, please notice the following descriptions.
Note1: The following installation was operated under Windows XP. (Procedures are similar for Windows 98SE/Me/2000/Vista/7.)
Note2: If you have installed the WLAN PCI Card driver & utility before, please uninstall the old version first.

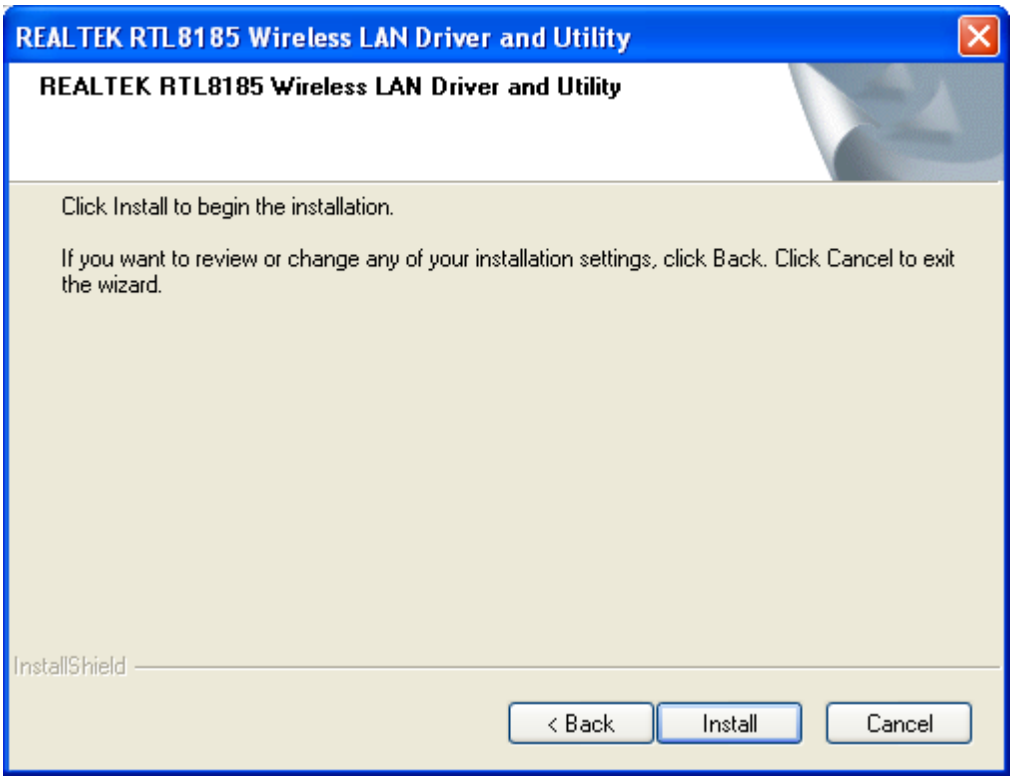
1. If you insert the Wireless LAN PCI Card into your computer PCI slot before installing the software program from the CD, then auto installation window pops up as follows:
2. Click **Driver Installation**
3. Choose a setup language. Click **Next** to process the installation.



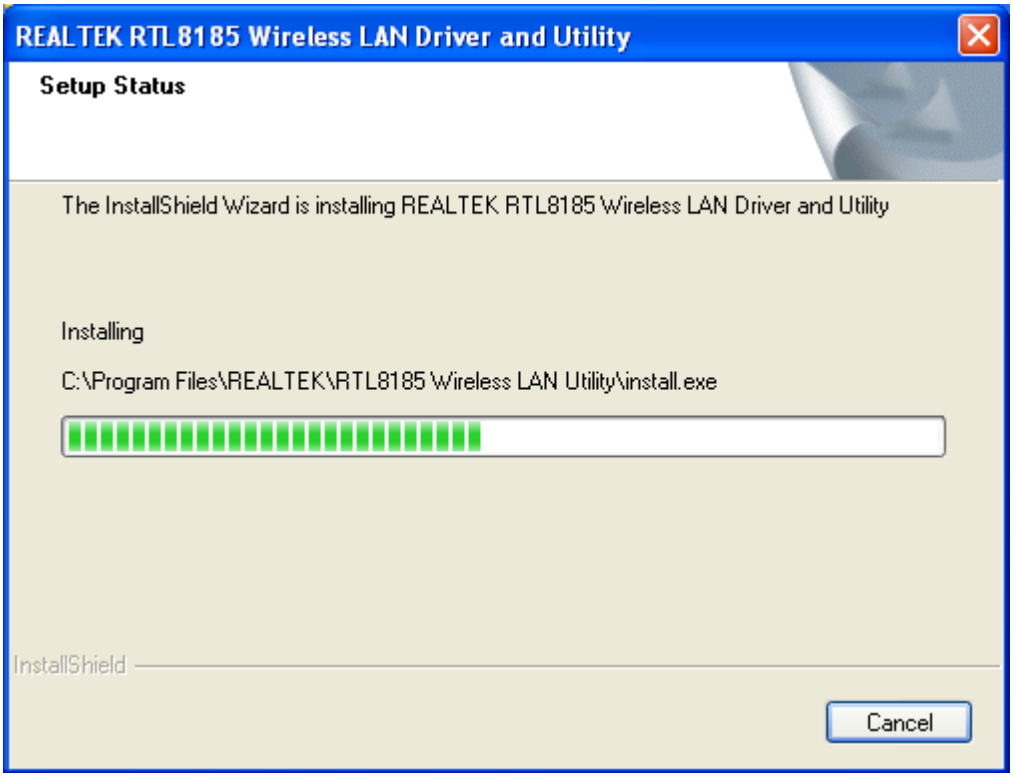
4. Click **Next**

REALTEK RTL8185 Wireless LAN Driver and Utility
REALTEK RTL8185 Wireless LAN Driver and Utility
The InstallShield Wizard will install REALTEK RTL8185 Wireless LAN Driver and Utility on your computer. To continue, click Next.
< Back
Next >
Cancel

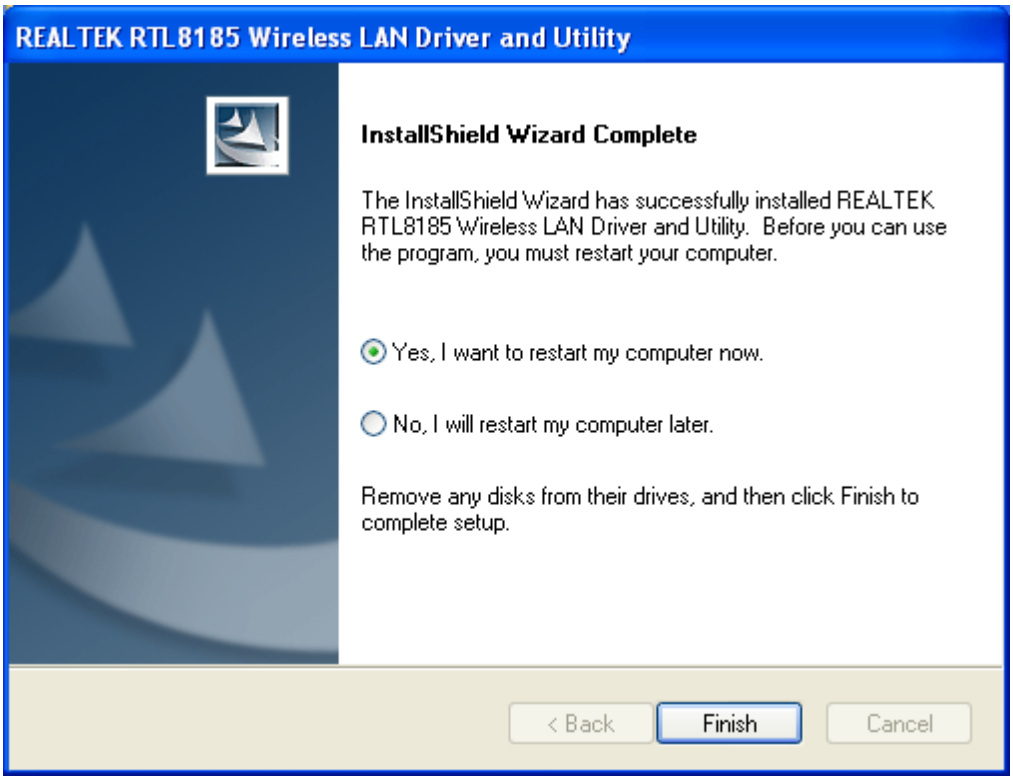
5. Click **Install**


REALTEK RTL8185 Wireless LAN Driver and Utility
REALTEK RTL8185 Wireless LAN Driver and Utility
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

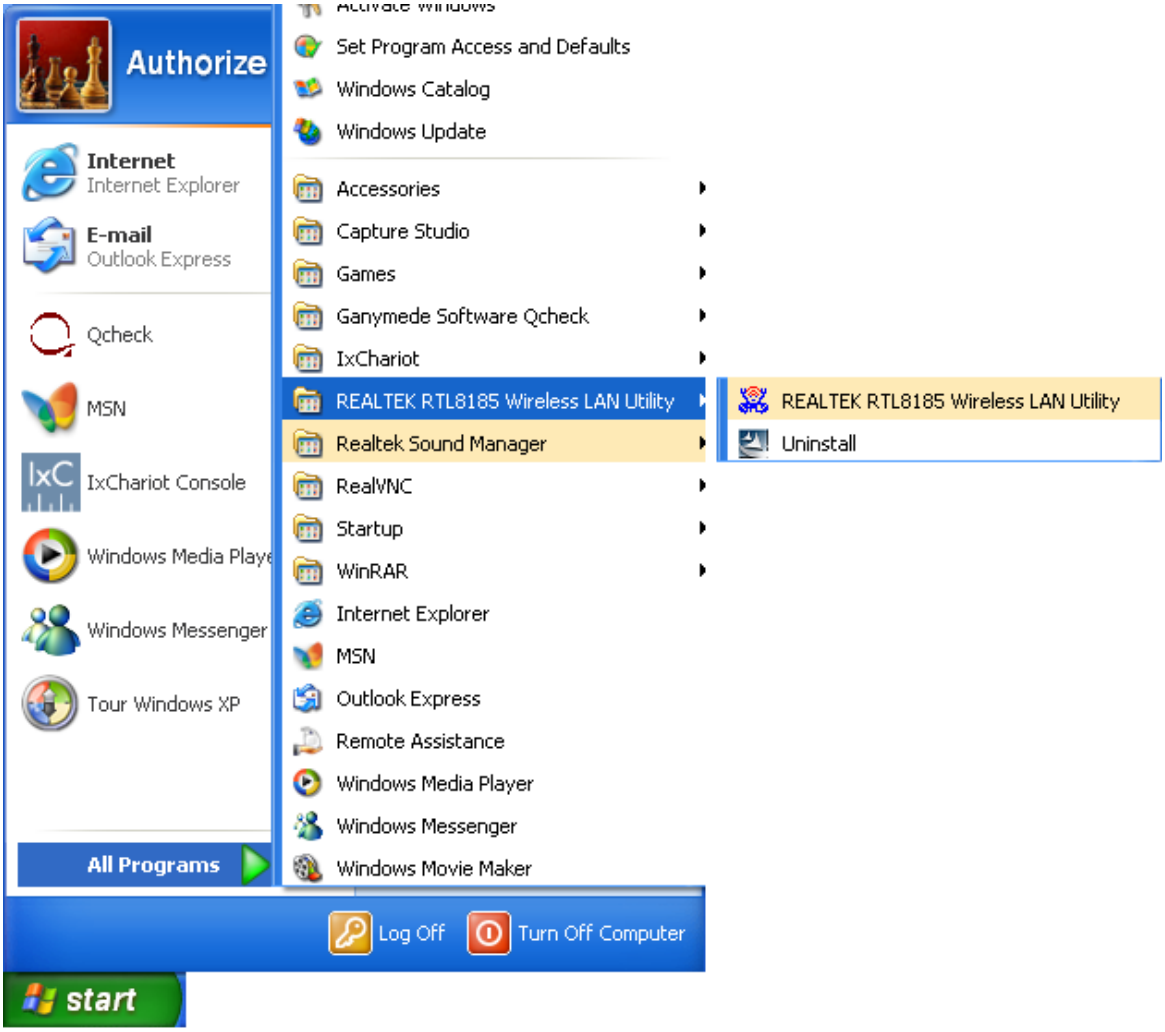
6. The system starts software installation of the WLAN PCI Card.


REALTEK RTL8185 Wireless LAN Driver and Utility
Setup Status
The InstallShield Wizard is installing REALTEK RTL8185 Wireless LAN Driver and Utility
Installing
C:\Program Files\REALTEK\RTL8185 Wireless LAN Utility\install.exe
InstallShield
Cancel

7. Click **Finish** to complete the installation.


REALTEK RTL8185 Wireless LAN Driver and Utility
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed REALTEK RTL8185 Wireless LAN Driver and Utility. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish
Cancel

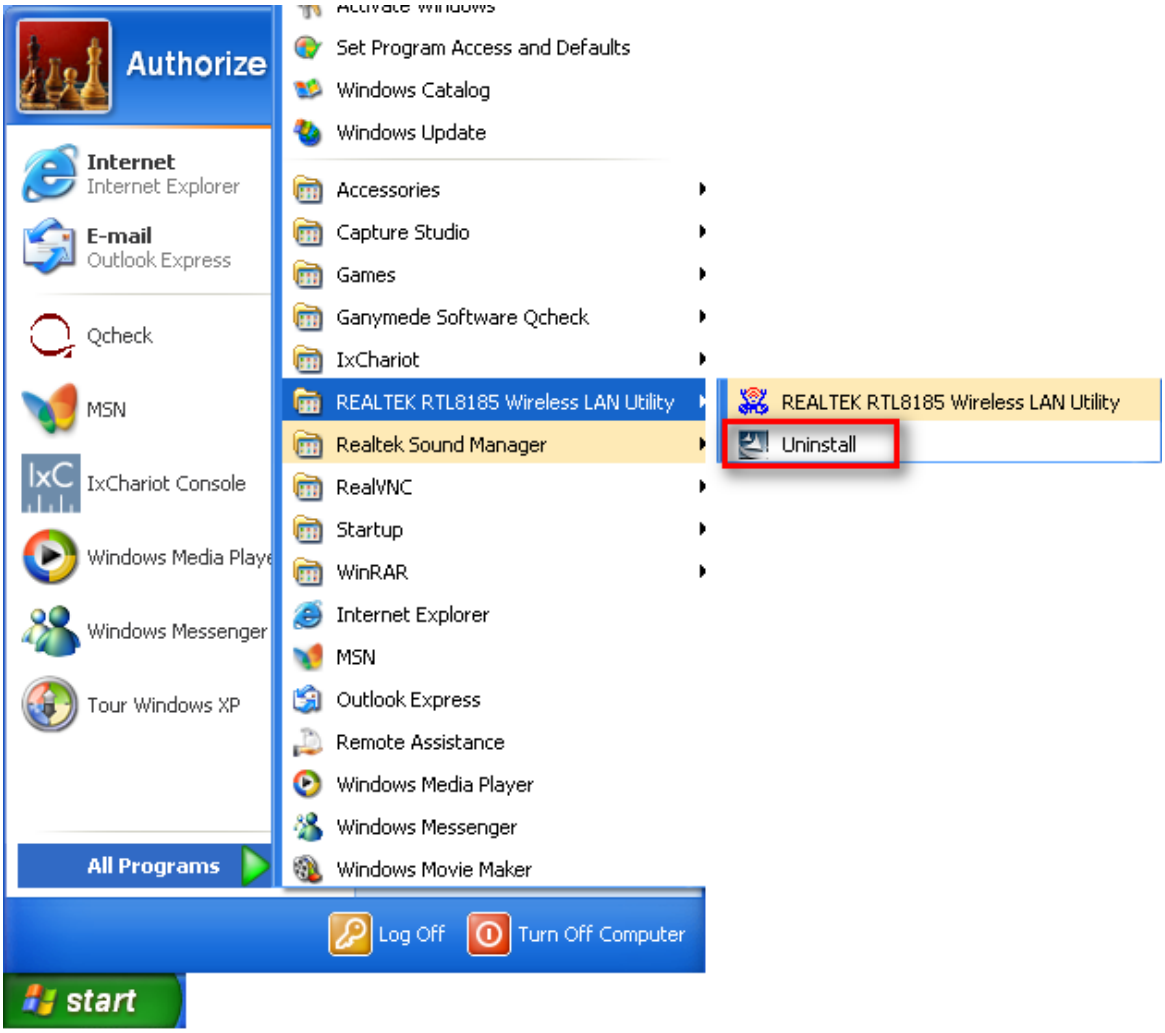
8. After click **Finish** to complete the installation, under Windows XP <ALL Programs> menu, REALTEK RTL8185 wireless LAN Utility program installed.

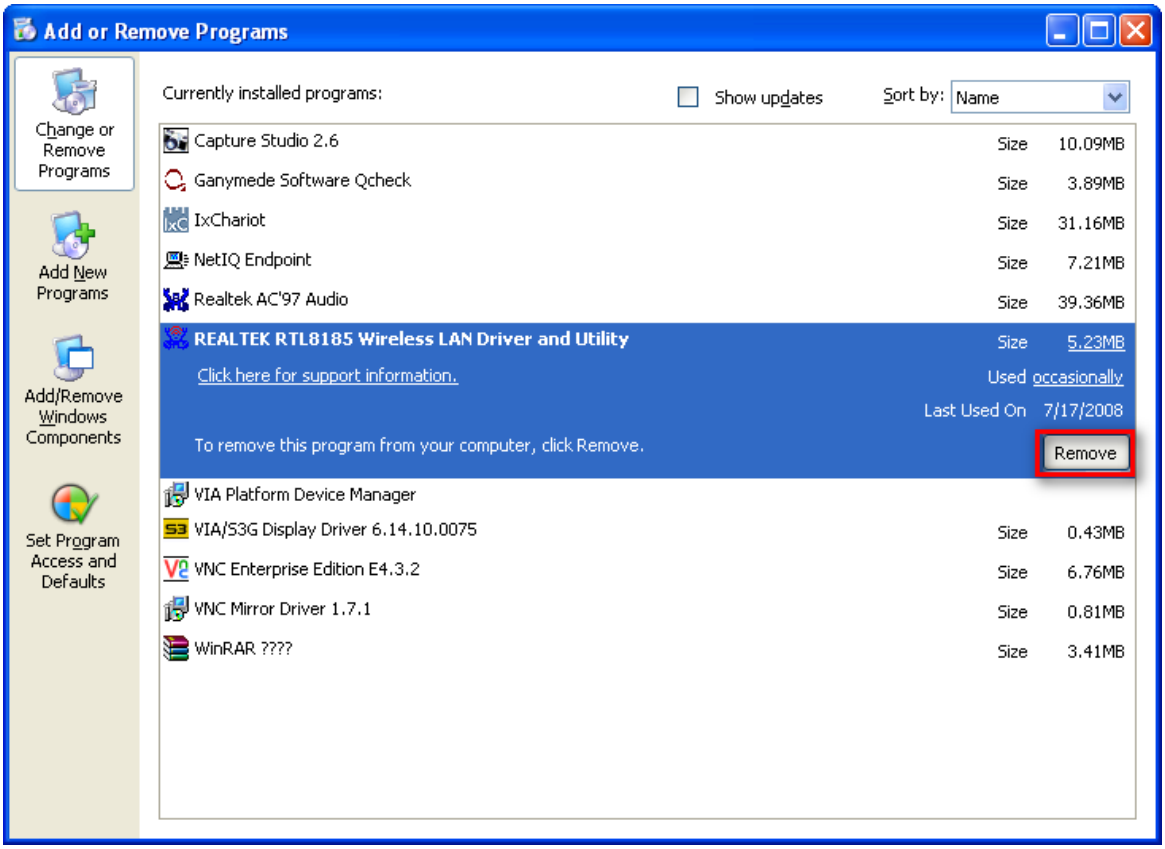

Authorize
Internet
Internet Explorer
E-mail
Outlook Express
Qcheck
MSN
IxChariot Console
Windows Media Playe
Windows Messenger
Tour Windows XP
All Programs
Set Program Access and Defaults
Windows Catalog
Windows Update
Accessories
Capture Studio
Games
Ganymede Software Qcheck
IxChariot
REALTEK RTL8185 Wireless LAN Utility
Realtek Sound Manager
RealVNC
Startup
WinRAR
Internet Explorer
MSN
Outlook Express
Remote Assistance
Windows Media Player
Windows Messenger
Windows Movie Maker
REALTEK RTL8185 Wireless LAN Utility
Uninstall
Log Off
Turn Off Computer
start

3.2 Uninstallation

From “Wireless Network Driver and Utility” or “Control Panel” ”Change or Remove Programs”.

1. Uninstall the WLAN PCI Adapter Driver from “Start” “All Programs” Click “Uninstall”(or “Change/ Remove”) to remove Wireless LAN PCI Adapter driver.

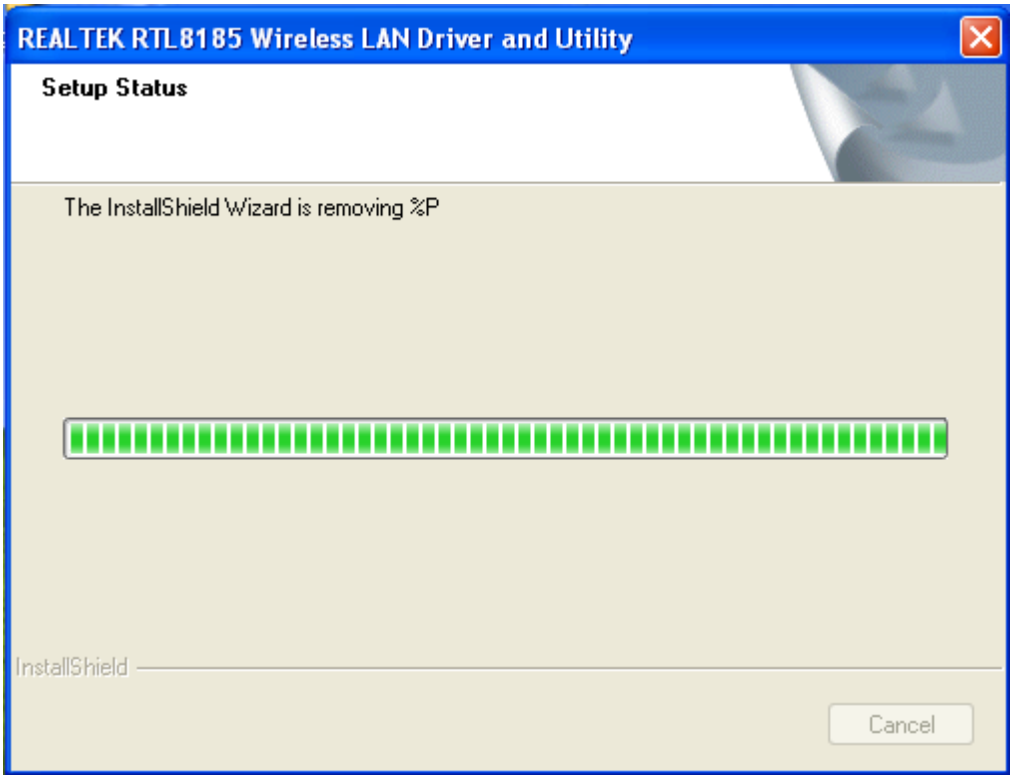


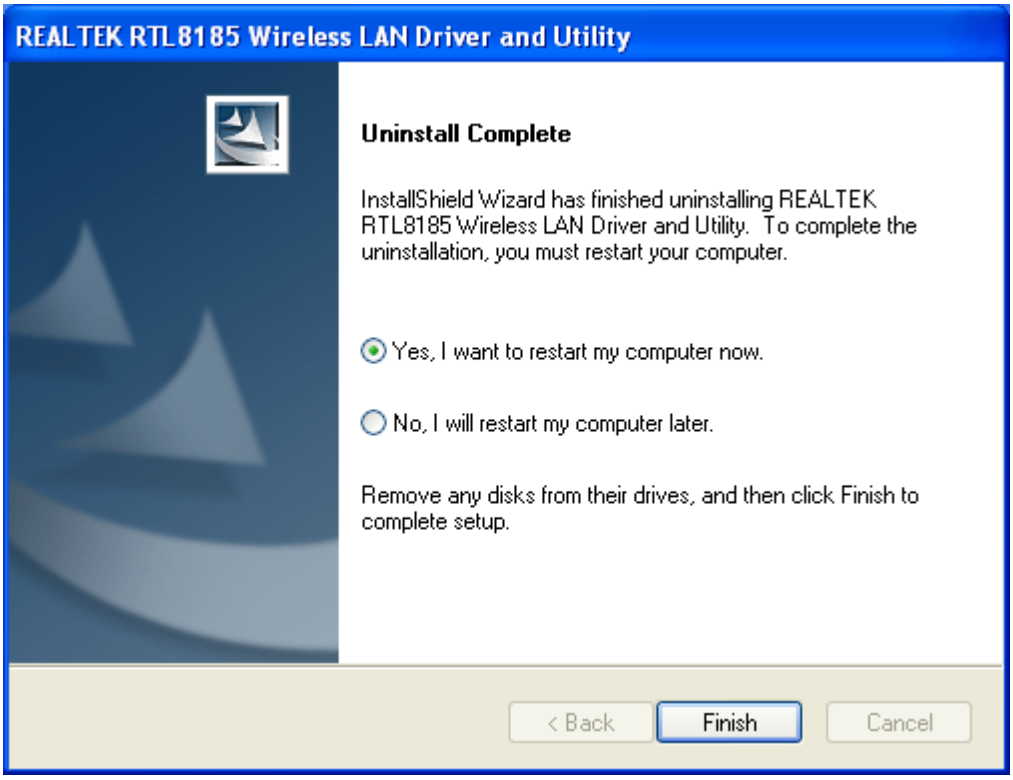

Add or Remove Programs
Change or Remove Programs
Add New Programs
Add/Remove Windows Components
Set Program Access and Defaults
Currently installed programs:
Show updates
Sort by: Name
Capture Studio 2.6 Size 10.09MB
Ganymede Software Qcheck Size 3.89MB
IxChariot Size 31.16MB
NetIQ Endpoint Size 7.21MB
Realtek AC'97 Audio Size 39.36MB
REALTEK RTL8185 Wireless LAN Driver and Utility Size 5.23MB
Click here for support information.
Used occasionally
Last Used On 7/17/2008
To remove this program from your computer, click Remove.
Remove
VIA Platform Device Manager
VIA/S3G Display Driver 6.14.10.0075 Size 0.43MB
VNC Enterprise Edition E4.3.2 Size 6.76MB
VNC Mirror Driver 1.7.1 Size 0.81MB
WinRAR ???? Size 3.41MB

2. Click“**Yes**”if you want to remove Wireless LAN PCI Adapter Driver.

Wireless LAN - InstallShield Wizard
Do you want to completely remove the selected application and all of its features?
Yes
No

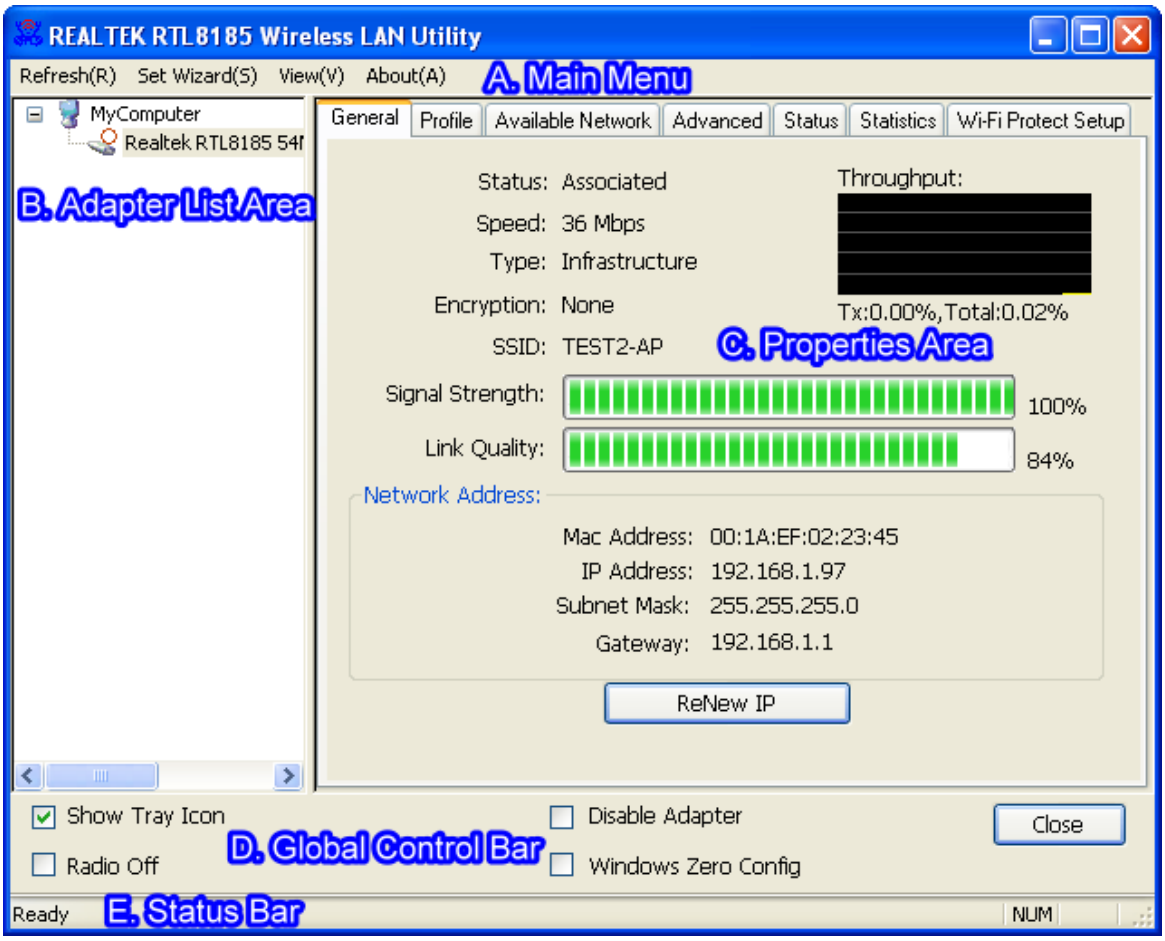
3. Click“**Finish**”to complete the uninstallation.


REALTEK RTL8185 Wireless LAN Driver and Utility
Setup Status
The InstallShield Wizard is removing %P
InstallShield
Cancel


REALTEK RTL8185 Wireless LAN Driver and Utility
Uninstall Complete
InstallShield Wizard has finished uninstalling REALTEK RTL8185 Wireless LAN Driver and Utility. To complete the uninstallation, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish
Cancel

4 Wireless LAN Management GUI

4.1 Introduction of Main Window



A. Main Menu

The main menu includes four sub menus.

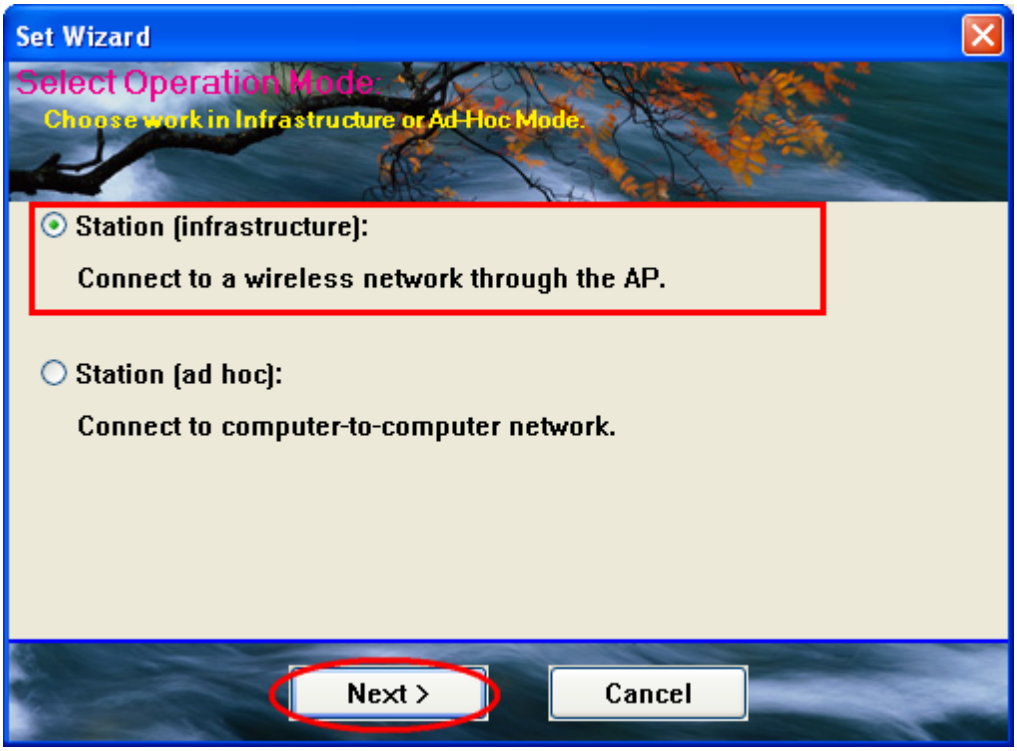
1. Refresh(R)

When clicking the refresh menu, you can update and re-enumerate the contents of adapter list area.

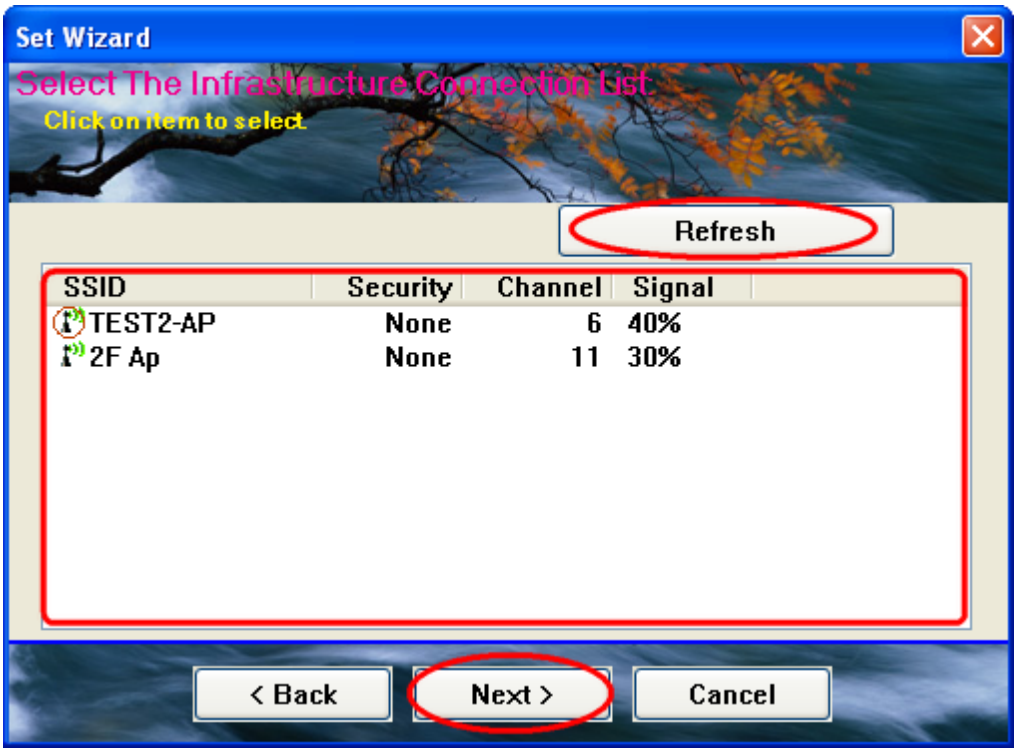
2. Set Wizard(S)

2.1 Wizard-1

1. Select Set Wizard(S) then select Station (infrastructure) then click Next.



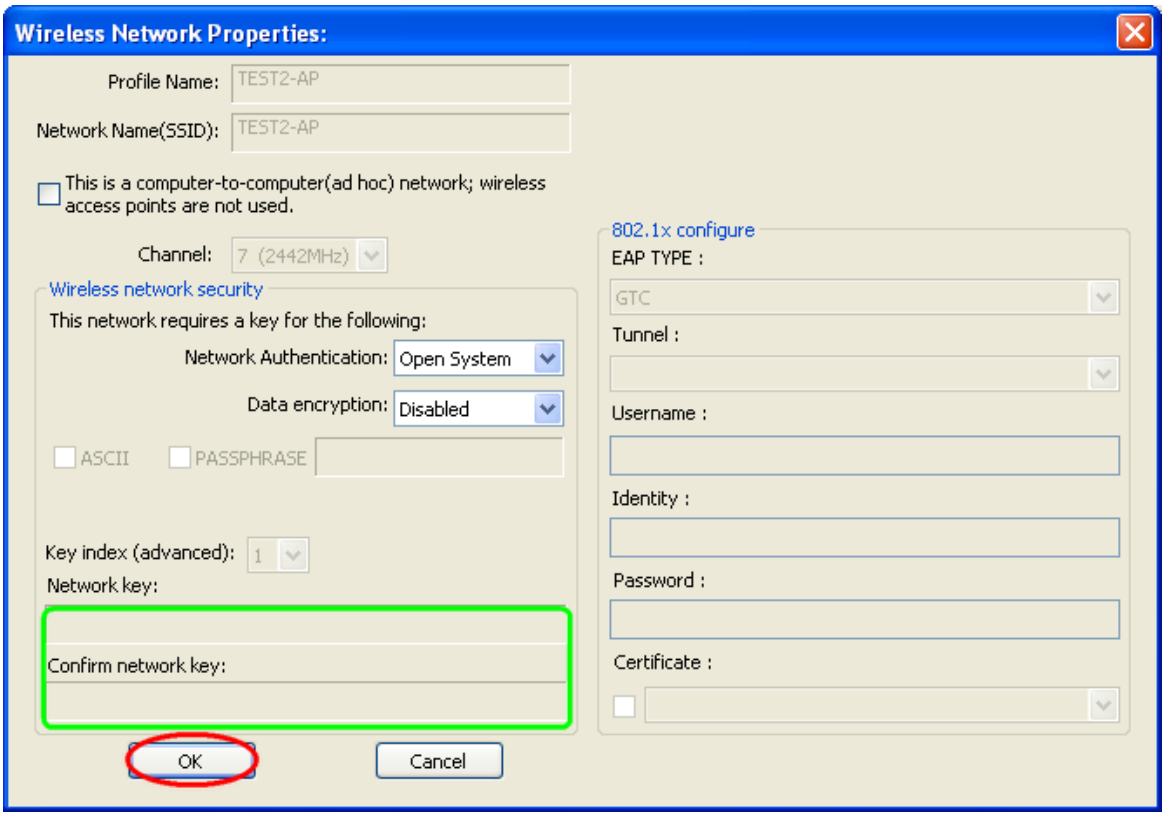
2. From red box you can access the AP you search or click Refresh button to search available AP. Select one and click Next.



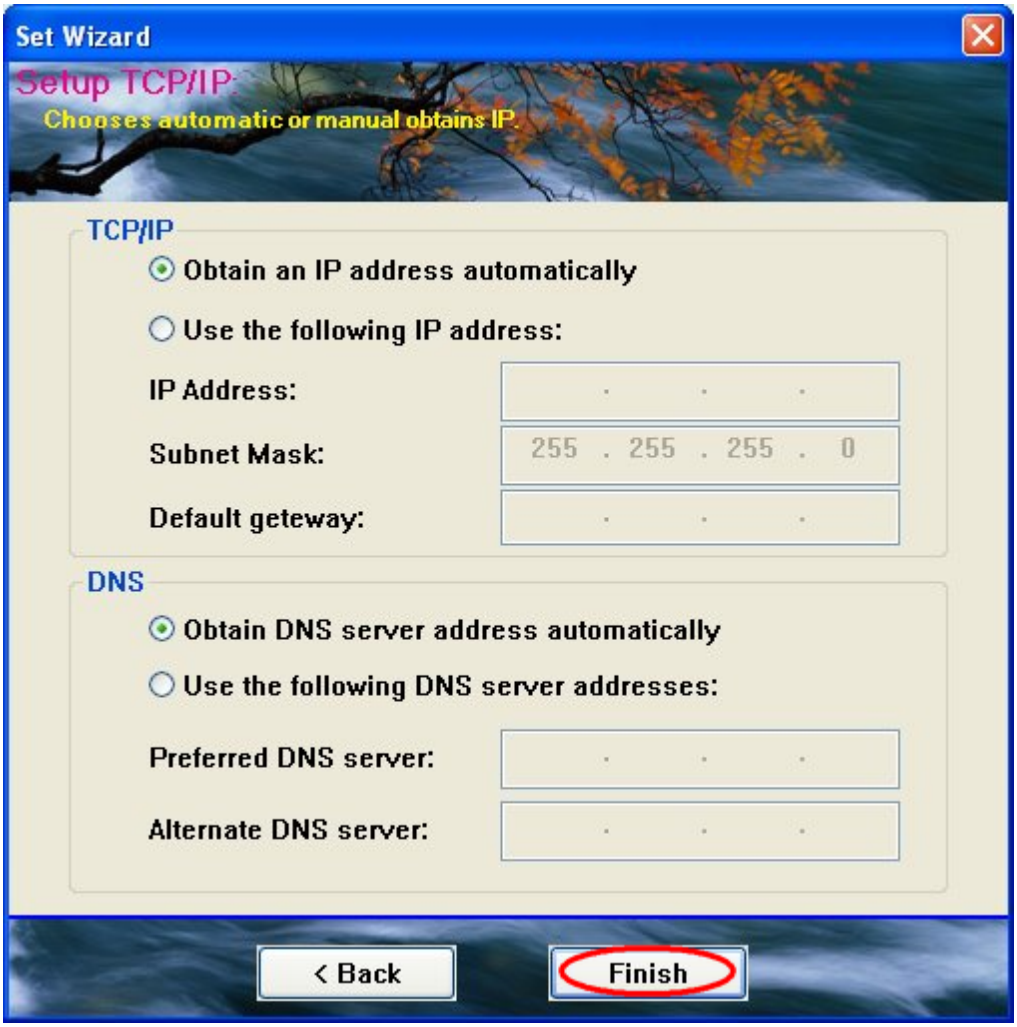
3. Click OK

Unsecured network
You are connecting to the unsecured network " TEST2-AP ".
Information sent over this network is not encrypted and might be visible to other people.
OK
Cancel

4. Click OK to connect.
If password is needed, you need to fill in password at green box. Click OK to connect.



5. Click Finish and now you can access to internet.

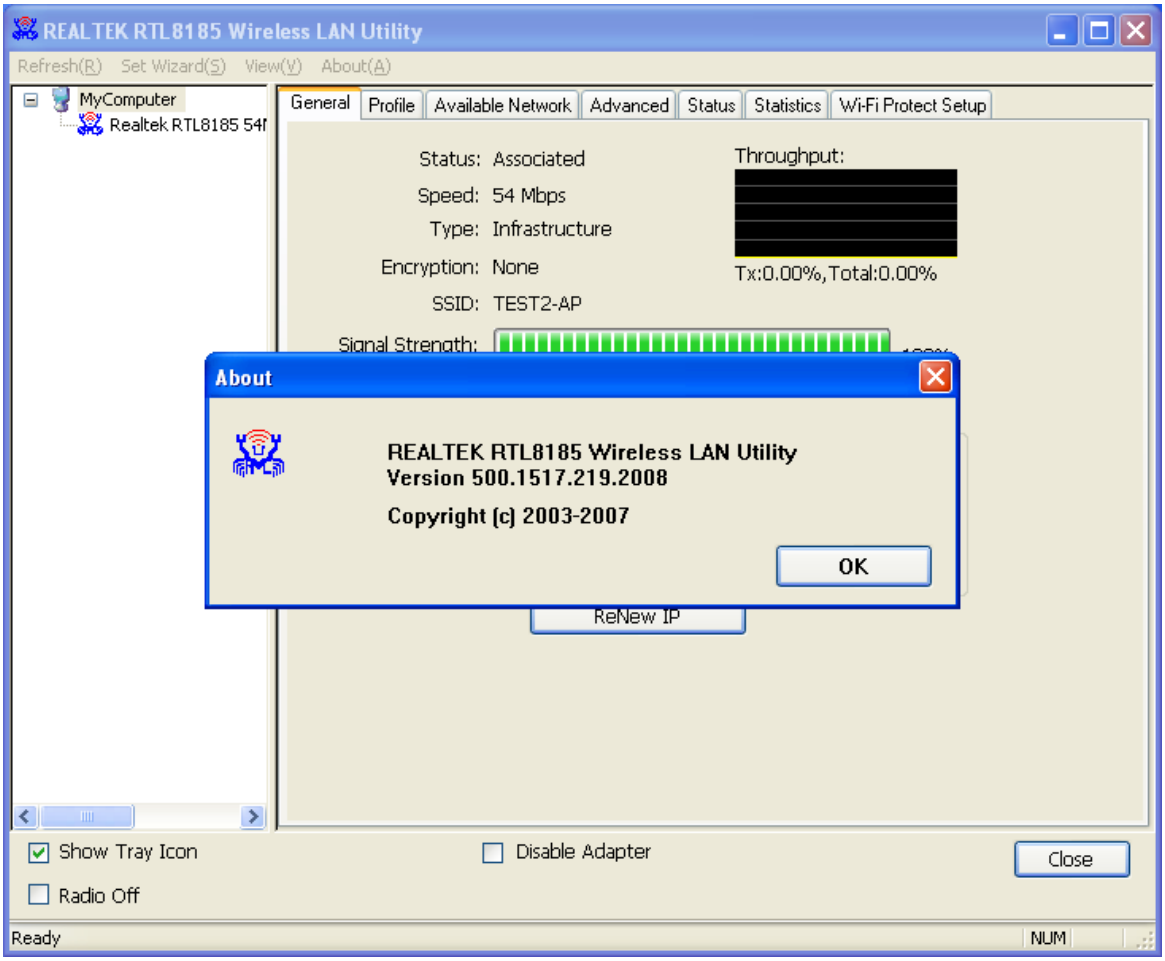


3.View (V)

Enable/disable the presence of E. Status Bar. Without the check mark (v) the E. Status Bar will be hidden.

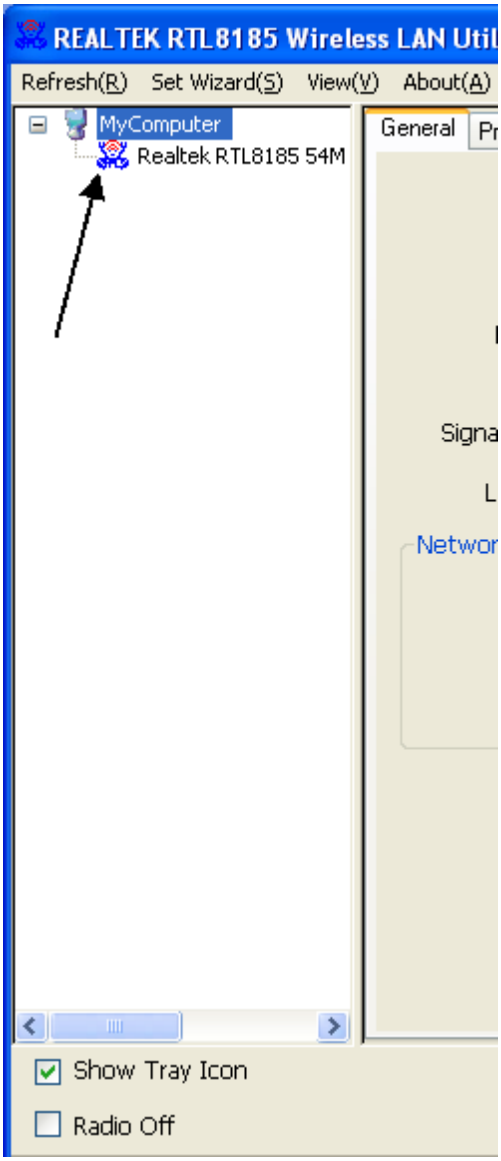
4.About(A)

Click the “About” to show the about dialog. The application version and license information are shown in the about dialog.



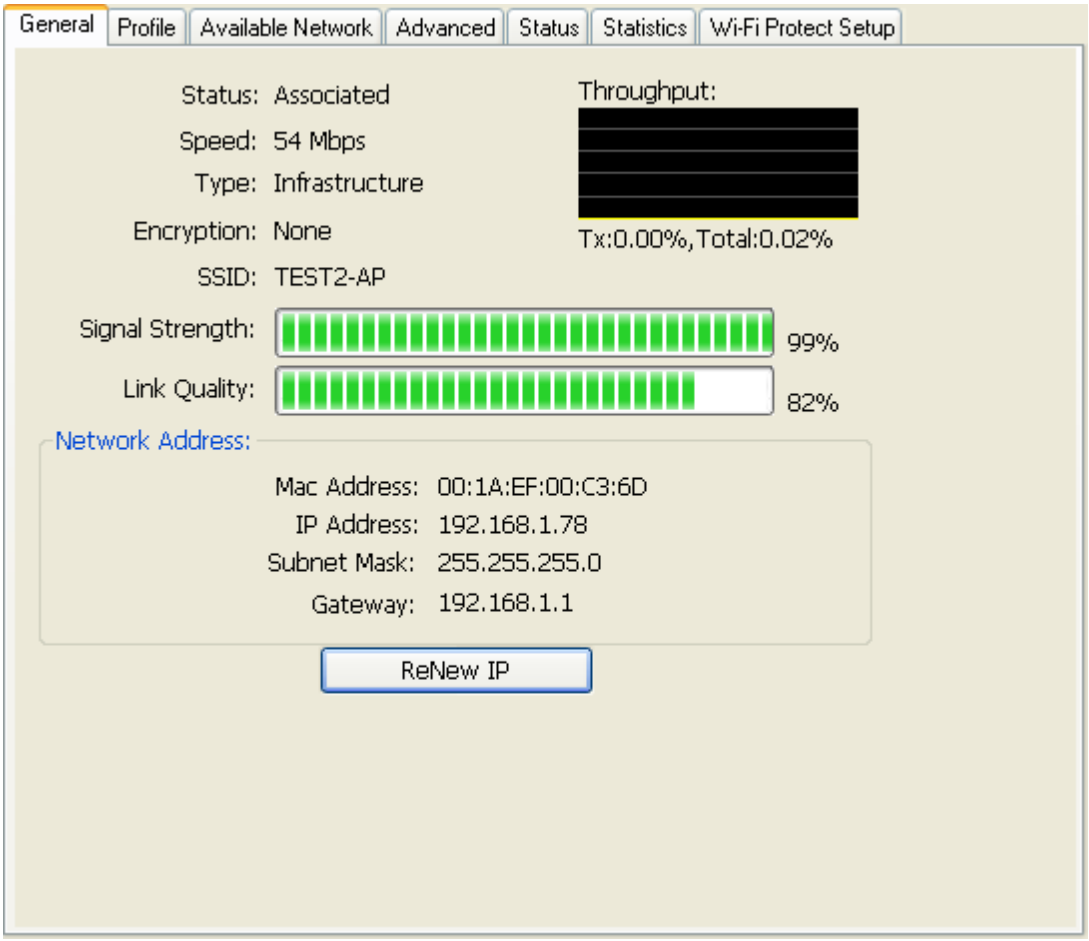
B. Adapter List Area

All connected adapters on this system with multiple adapter installations are displayed in this area. It is easy for users to change the selected adapter by one click. The contents of properties area are dependant on wireless configuration that the selected adapter is set up. If only single adapter is installed on the system, only one adapter is always selected.

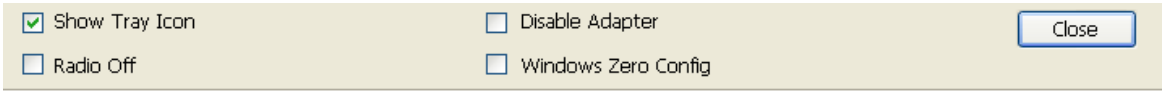


C. Properties Area

The contents of this area are dependent on current wireless configuration. The current configuration is determined on previous explanation of submenu “Mode”. The more detailed contents are described in the following wireless configuration sections for both Station and AP mode.



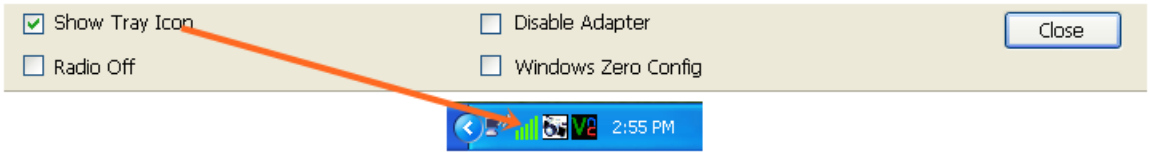
D. Global Control Bar



Each control item on this bar affects the adapter or management GUI directly.

Show Tray Icon

Checking "Show Tray Icon" and clicking “Close” button, the management GUI will be minimized and stay on the tray icon located at the right bottom corner of Windows. If not, management GUI will shut down while clicking "Close" button with unchecked condition



Radio Off

Turn off the radio to save power. While the radio is off, the links with other wireless network nodes are disconnected. User should be aware that while the wireless configuration is in AP mode. The radio off will cause the sub network belonging to the AP to be disconnected with internet/intranet.

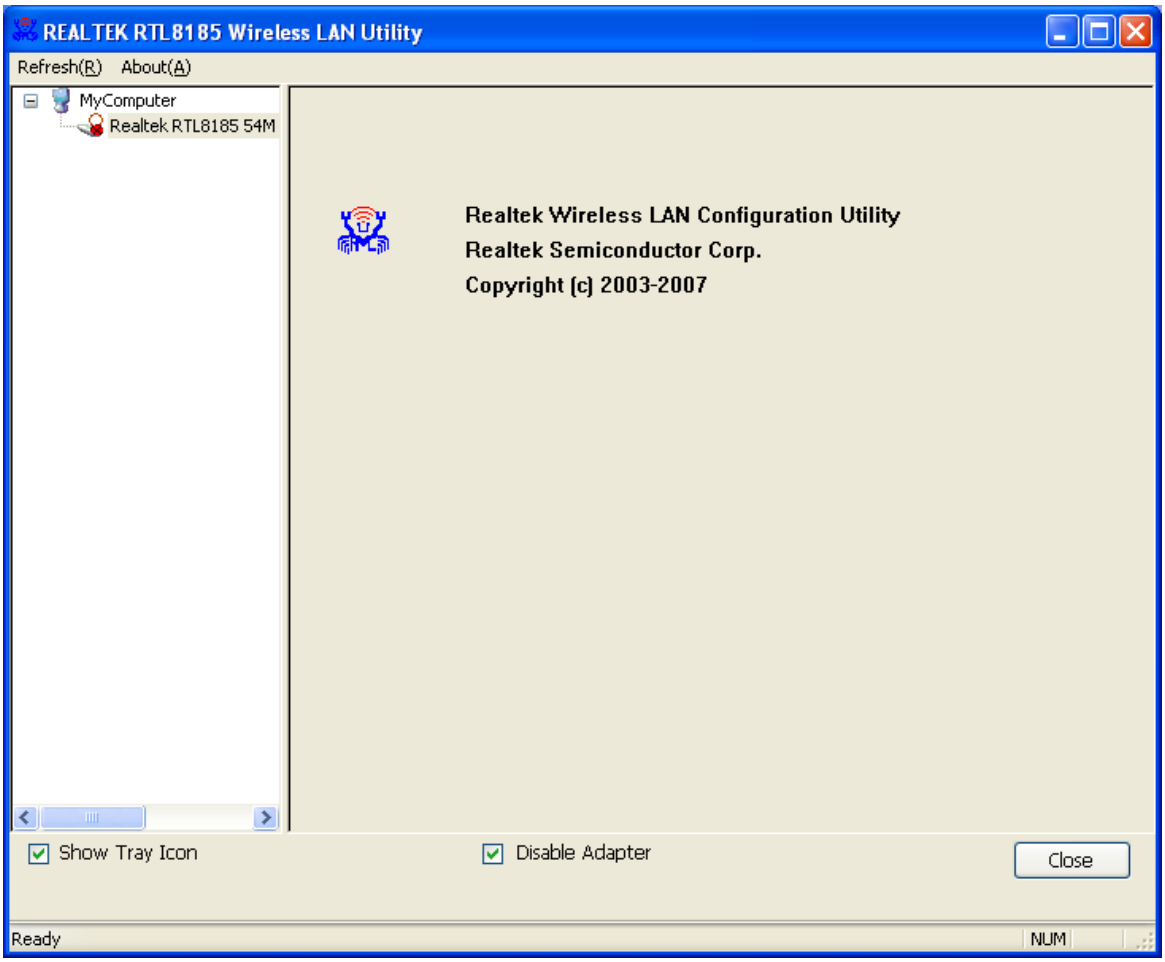
Disable Adapter

Stop wireless PCI device.

Windows Zero Config

Switch utility to Windows XP default wireless setting tool.

Close
Whether to check or uncheck "Show Tray Icon" is to shutdown or hide the management GUI.

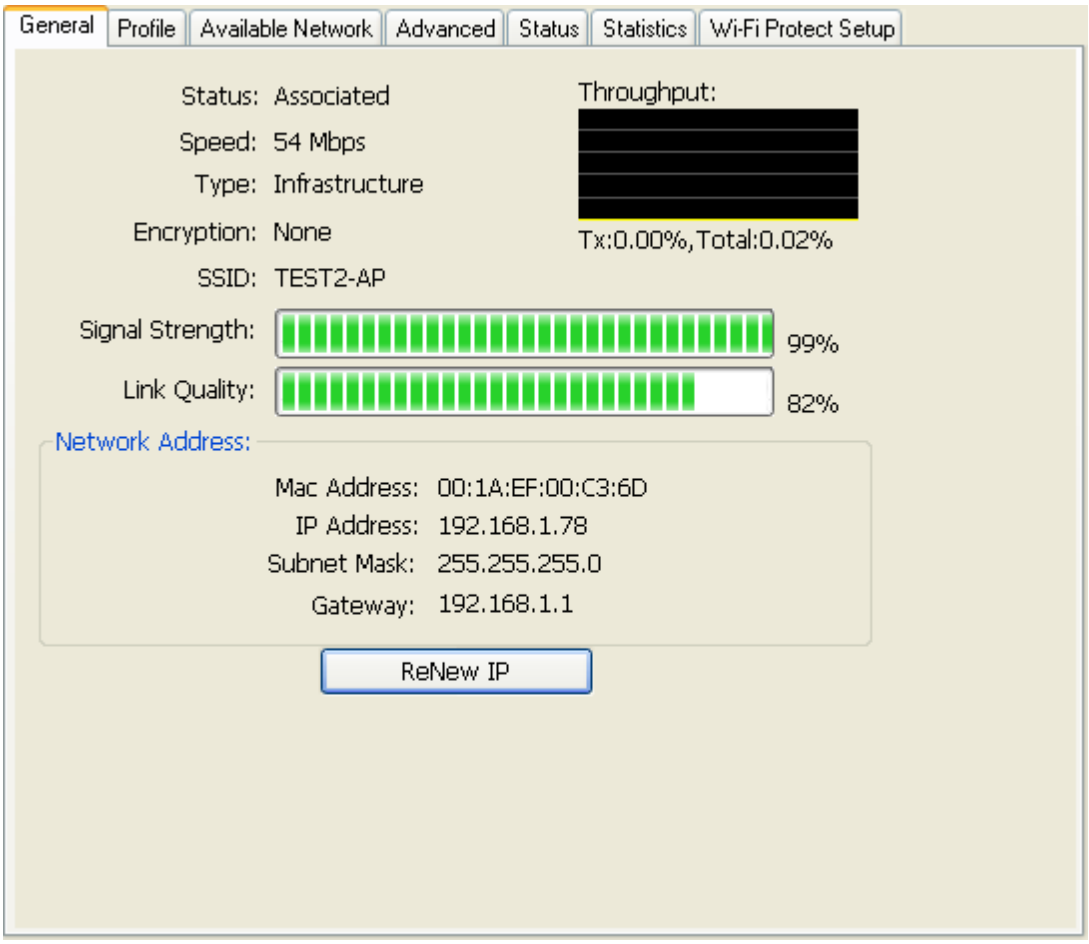


E. Status Bar

The hints or status of the management GUI are presented in the status bar.

4.1.1 General Page

This page represents the general information of this adapter.



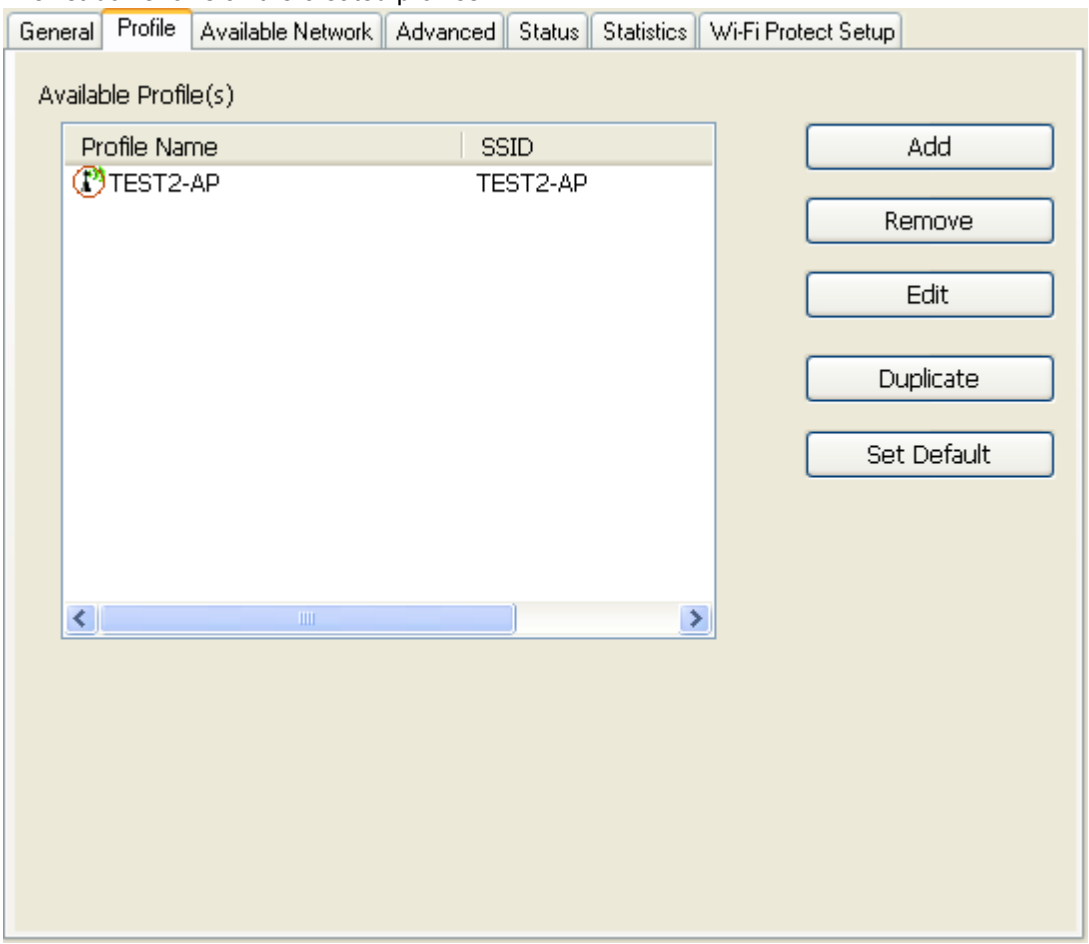
1. Status
The status of station connection to AP.
2. Speed
Current transition speed in Mbps (Mega-Bits-Per-Second).
3. Type
Current wireless LAN configuration type.
4. Encryption
Current encryption mode used.
5. SSID
Name of wireless network.
6. Signal Strength
The average signal quality of packets received from wireless network.
We recommend connecting AP with over 70% signal strength.
7. Throughput Diagram
Current throughput, including transmission (Tx) and total traffic (Total).
8. Network Address
Mac Address: six two-digital number of this Wireless LAN PCI adapter
IP Address: assigned network address by DHCP server or
self-definition in four three-digital number format.
¦ Subnet Mask: the only valid value is 2555.255.255.0
¦ Gateway: It comes from connected AP. Your system can not
connect internet with this field empty.

4.1.2 Profile Page

This page provides profiles management such as add, remove, edit and duplicate just by pressing the respected button.

Available Profile(s)

The list box shows all the created profiles.



1. Add

Add a new profile for AP or IBSS (Ad-Hoc mode).

2. Remove

Remove the selected profile.

3. Edit

Edit contents of selected profile.

4. Duplicate

Make copy of selected profile.

5. Set Default

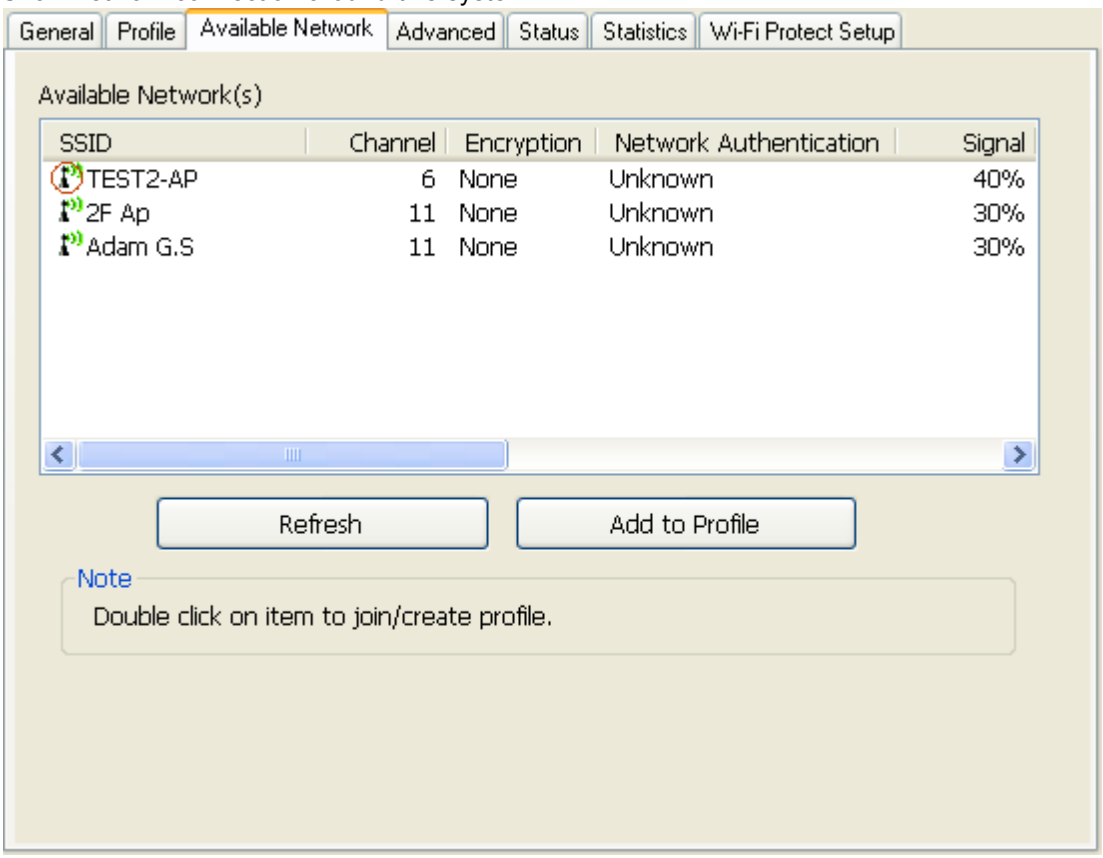
Set the selected profile as default selection.

6. Available Network Page

This page presents all BSS, including AP and IBSS, around this system. You can pick any one of these network connections.

4.1.3 Available Network

Show network connection around this system.



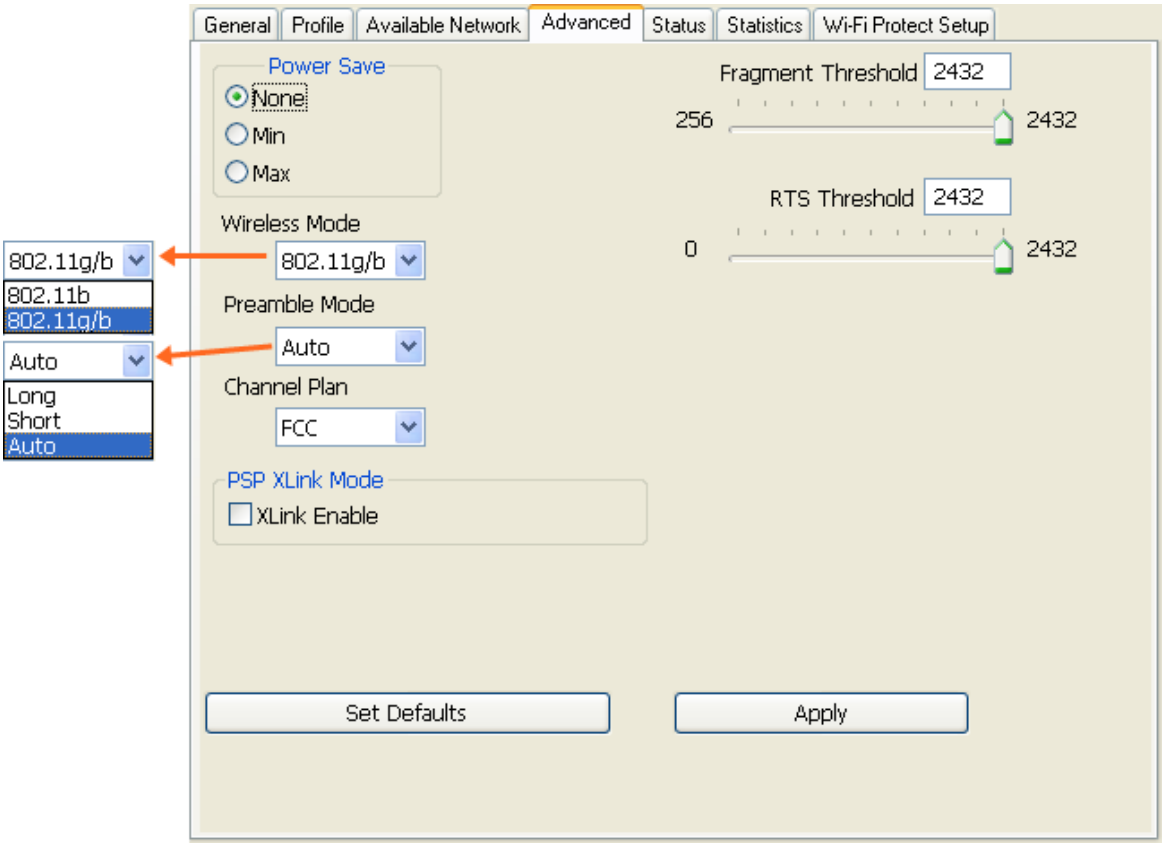
1. Refresh

Rescan network connection around this system.

2. Add to Profile

Create profile for selected network connection and add it to profile list.

4.1.4 Advanced Page



1. Power Save

None: without power save function.

Min: wake up more frequently to receive packets.

Max: wake up less frequently to receive packets.

2. Wireless Mode

802.11b

802.11g/b

3. 802.11b Preamble Mode

Long: higher quality but with lower performance than preamble short mode.

Short: Normal quality but with higher performance than preamble long mode.

Auto: use the preamble mode of current.

4. Fragment Threshold

The threshold of fragment length. Higher threshold increase data transition performance with good signal quality. However, in a poor signal quality environment, data throughput might be worse on high fragment threshold than low fragment threshold.

5. RTS Threshold

Threshold of Request To Send mechanism. The RTS frame will not send out until the packet size over threshold.

6. WOL (Wake On LAN)

The wake-on-LAN is applied for remote control purpose. You could wake up a system through network packets. For Wireless LAN PCI Adapter, only the same adapter on another system could wake it up. Input MAC Address: the six two-digit numbers of Wireless LAN PCI Adapter on target system.

Wake Up: click this button to wake it up .

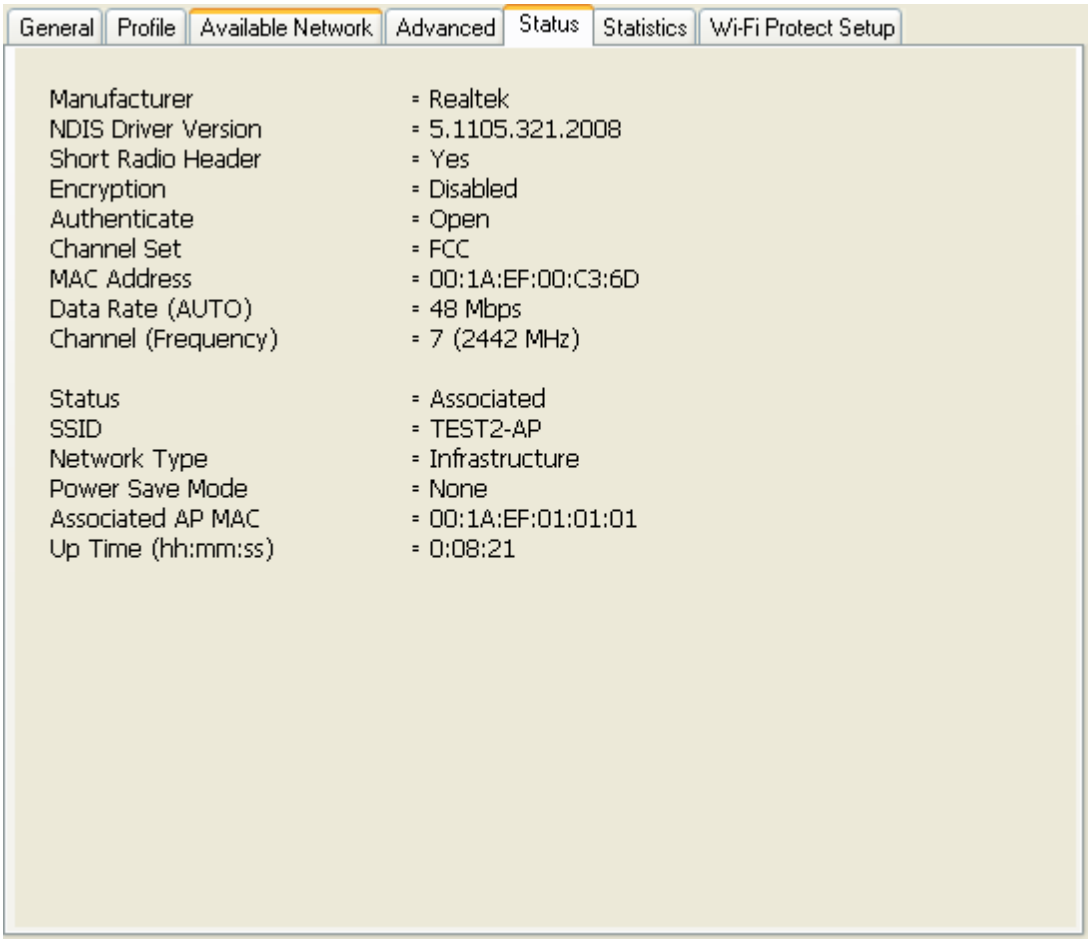
7. Set Defaults

Restore the default value to be current settings.

8. Apply

Apply the current settings to GUI.

4.1.5 Status Page



1. NDIS Driver Version
Driver version
2. Short Radio Header
Yes
3. Encryption
Current encryption mode.
4. Authenticate
Authentication state
5. Channel Set
Selected channel plan currently.
6. MAC Address
MAC address of this adapter.
7. Data Rate
Wireless LAN transition speed
8. Channel(Frequency)
Current channel number
9. Status
Wireless network status
10. SSID
name of connecting AP
11. Network Type
Indicate current network configuration type
12. Power Save Mode
Current setting power save mode
13. Associated AP MAC
MAC address of connecting AP

14. Up Time
Total connection time

4.1.6 Statistics Page

You could watch the Tx/Rx status of current wireless connection. This page shows a statistic analysis of packet transition.